

AMENDMENTS TO THE SPECIFICATION:

Please amend page 1, paragraph 4, to read as follows:

BACKGROUND OF THE INVENTION

Endoscopic surgery, i.e., minimally invasive access to a cavity of a patient's body, such as the abdominal cavity, is typically performed through the use of miniaturized optical and surgical instruments. In the case of laparoscopic surgery, which concerns the peritoneal cavity, the cavity is essentially virtual ~~in the mind of~~ from the surgeon's perspective and cannot be explored by optical instruments. To provide the cavity with more substance or space, its walls are raised by insufflation of gas, generally CO₂, to form a gas chamber, known as a pneumoperitoneum. Access to the pneumoperitoneal chamber is accomplished using trocars or small incisions that are fit with a valve, so that communication between the interior and exterior of the abdomen occurs without significant variation in actual pressure of the gas. Surgical instruments may then be inserted through the trocars ~~and the~~ with optics connected externally to a television camera and, in turn, to a monitor, thereby forming a take and image transmission system.

Please amend page 2, paragraph 1, to read as follows:

Even if the pressure exerted on the patient's organs by the pneumoperitoneum ~~facilitates~~ causes spontaneous haemostasis of countless capillaries as may have been lesioned in forming the pneumoperitoneum, it is considered necessary that perfect

haemostasis be achieved throughout. Otherwise, visibility inside the cavity may be so reduced as to make it impossible, or at least inadvisable, to continue laparoscopic surgery without risk to the patient's safety. Normally, during laparoscopic procedures, outflowing blood and other bodily fluids are aspirated to keep the surgical site clean and ensure adequate instrument visibility. While useful, aspiration is not only inefficient to implement, but it also requires ~~several~~ several seconds to commence the aspiration process, which delay is unfortunately often decisive. As an alternative, use of forceps to insert absorbent plugs through a trocar at the surgical site has been found similarly inefficient.

Please amend from after paragraph 2 on page 2 to before the first full paragraph on page 3 to read as follows:

One disadvantage of these arrangements is that recovery of the plug using a forceps can be laborious and even dangerous, especially during laparoscopic surgery for the removal of a tumor. More specifically, during this procedure, the dissemination of cells, including those that may be cancerous, as is caused by partial squeezing of the plug as it passes through the trocar, may take place at a site far from ~~that~~ where the tumor developed. Such dissemination, in turn, may cause serious remote neoplastic dissemination which is difficult to treat. Because the plug becomes soaked with blood or other bodily fluids, there is also considerable risk that the surgeon may either be unable to find and remove the plug, or will simply "forget" about the plug after it has been introduced into a patient's body cavity. ~~Such "oversights", often result in leading to~~

medical and legal disputes. While these disputes are generally less frequent in laparoscopic surgery than in traditional or “open” surgery, the risk is still considered significant.

Please amend page 3, first full paragraph, to read as follows:

OBJECTS AND SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a device for removing organic fluids from a patient's body cavity ~~of a patient~~ during a medical procedure that overcomes inefficiencies and delays attendant aspiration of such fluids, avoids the inefficient, laborious and hazardous nature of inserting absorbent plugs using forceps, and eliminates the risk of oversight associated with plug removal during the procedure.

Please amend from after the third full paragraph on page 3 to before the first full paragraph on page 4, to read as follows:

According to one aspect of the present invention, a device is provided for removing organic fluids from a patient's body cavity during endoscopic surgery. The device comprises an absorbing plug, a tubular body suitable for slidably housing the plug, and a plunger slidably engageable in the tubular body so as to push the plug outside thereof and place it at the surgical site. The tubular body and plunger have a distal end and a proximal end. The plug is preferably connected to a radio-opaque plug

locator ball for floating ~~that floats~~ relative to internal organs, blood or other ~~liquids~~ fluids present at the surgical site. At the distal end of the plunger, a handle is provided for gripping the ~~locator ball~~ and recovering the plug after use by retracting the plunger inside the tubular body.

Please insert the following new paragraph after the paragraph that goes from after third full paragraph on page 3 to before the first full paragraph on page 4:

- - In accordance with another aspect of the present invention, a device is provided for removing organic fluids from a body cavity. The device comprises an absorbing plug, a tubular body suitable for slidably housing the plug, and a plunger slidably engageable in the tubular body so as to push the plug outside thereof and place it at the surgical site. The tubular body and plunger have a distal end and a proximal end, wherein the plug is connected to at least one radio-opaque plug locator ball for floating relative to internal organs, blood or other fluids present at the surgical site. A loop is provided at the distal end of the plunger, and at the proximal end, a first handle is provided for actuating the plunger so as to grip the ball and recover the plug after use by retracting the plunger inside the tubular body. At the proximal end of the tubular body and of the plunger, a second handle is associated with the tubular body for actuating axial sliding of the plunger in one direction or the other as a result of corresponding pressure actions exerted simultaneously in opposite directions on the second handle.- -

Please amend page 4, first full paragraph, to read as follows:

BRIEF DESCRIPTION OF THE DRAWINGS

A specific, illustrative device for endoscopic surgery, according to the present invention, is described below with reference to the following drawings, in which:

Please amend page 4, second full paragraph, to read as follows:

FIG. 1 is a partial perspective view of a surgical device, according to one aspect of the present invention;

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings and, more particularly, to FIGS. 1 - 4c, there is shown generally a specific, illustrative, surgical device, in accordance with various aspects of the present invention. According to one embodiment, shown generally in FIG. 1, the device comprises a relatively rigid tubular sheath or body with open distal and proximal ends 1a and 1b, respectively. A proximal portion of the sheath is engaged proportionately firmly with a hub 2 having a second handle such as a plurality of diametrically opposing handle rings or annular grips 3a, 3b generally coplanar to the sheath.

Please amend from after the sixth full paragraph on page 4 to before the first full paragraph on page 5 to read as follows:

A stem or plunger 4 is slidably inserted in tubular sheath 1, the distal end of which preferably has an eyelet configuration. According to one embodiment of the present invention, the distal end is constructed of a flexible thin plate 5 bent in half so as to form a loop with its ends connected to distal end 4a of the stem via a transverse peg 6 (as best seen in FIG. 3). Advantageously, plate 5 may be a strip of rectangular section and/or constructed of a selected harmonic or nickel-titanium steel to ~~suitably~~ exhibit sufficient flexural rigidity. Proximal end 4b of stem 4 mounts an annular grip or first handle 7 which, in the present embodiment, is connected to the stem by a peg (not shown), e.g., made of steel, and co-planar therewith.

Please amend page 5, first full paragraph, to read as follows:

The tubular sheath and stem are preferably made of a selected metallic or polymeric material suitable for surgical use, for example, polyethylene, TEFLON and/or the like. Annular grips 3a, 3b and 7 are desirably constructed ~~desirably~~ of a similar material. Circumferential grooves 11 are ~~advantageously~~ provided advantageously along stem 4 for housing O-rings (not shown) suitable for facilitating sliding along ~~the~~ an internal lubricated surface of tubular sheath 1.

Please amend from after the first full paragraph on page 5 to before the first full paragraph on page 6 to read as follows:

The device, according to the present invention, preferably also comprises an absorbent plug 8 having an elongated shape and, more particularly, a substantially pear-shape, such shape being suitable for enabling its insertion in the tubular sheath. Plug 8 is joined to a ball 10 by a wire 9, the ball (i) having a specific weight generally lower than that of blood such that it floats relative thereto, and (ii) being generally radio-opaque so as to be visible to using X rays. The ball should preferably be colored so as to be visually identifiable within the surgical field and have a surface finish suitable for allowing blood to slide over its surface.

Generally speaking, the plug can be made of any material suitable for haemostasis, and for absorption of blood and any other liquid that may be present in the surgical field. Beneficially, the plug may be constructed of polyvinyl alcohol (PVA) as in a product available under the commercial names MERACEL, IVALON or other equivalent products. Additionally, wire 9 is made of a biocompatible material, such as suture thread, having a diameter of about 0.5 mm and a length generally within a range of 8 cm and 10 cm.

Please amend page 6, second full paragraph, to read as follows:

The dimensions of ball 10 are such as to allow its insertion into tubular sheath 1 and, in turn, determine the dimensions of the loop so formed at distal end 4a of stem 4,

which dimensions must necessarily be slightly larger than ~~that~~ those of body 10. The ball must also be radio-opaque and white in color (or yellow, or another light color) so as to be easily identified at the surgical site. Optionally, a plurality of additional balls are provided.

Please amend page 7, first full paragraph, to read as follows:

Overall, the present invention is particularly advantageous in that recovery of the plug and, more ~~particularly~~ specifically, its reinsertion in tubular sheath 1 after use, is performed directly at the surgical site, so that partial squeezing of the plug, as inevitably occurs during use, does not become a source of remote contamination. Contamination is especially dangerous during removal of a tumor, namely, when tumoral cells are present, given the possibility of neoplastic dissemination and the risk of formation of metastasis. More specifically, partial squeezing of the plug, as a worst case scenario, is tantamount microscopically to incomplete removal of the tumor. Inevitably, with or without the plug, while this may still give rise to the possibly of a relapse of the disease locally, it is preferred when compared to the severity of remote metastasis.